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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/244,270 02/03/99 YUE

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EXAMINER

CHUNG, D

ART UNIT

PAPER NUMBER

2672

DATE MAILED:

07/03/01

024251  
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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.

09/244,270

Applicant(s)

YUE ET AL.

Examiner

Daniel J Chung

Art Unit

2672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

## DETAILED ACTION

Claims 1-6 are presented for examination. This office action is in response to the Request for reconsideration filed on 2-12-2001.

The objection to the drawing has been maintained.

### *Specification*

Please review the application and correct all informalities.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aleksic (5,914,722) in view of Lentz et al (5,446,836).

Regarding claim 1, Aleksic discloses that the claimed feature of a method (See Fig 2, Fig 4A-4B, col 2 line 65-col 3 line 27) comprising:

Receiving, in a circuit, first, second and third vertex data corresponding to first, second and third vertices of a triangle (See Fig 2, col 2 line 24-28)

Generating, in the circuit, region bits representing a location each of the first, second, and third vertices with respect to a tile [17;a memory page] being rendered (See Fig 2, Fig 4A, Fig 4B, col 2 line 54-59, col 2 line 65-col 3 line 27, col 4 line 55+)

Outputting coordinate data to a rasterizer, the coordinate data representing an initial rasterization starting point estimate based on the region bits. (See Fig 2, Fig 4A, Fig 4B, col 2 line 54-59, col 2 line 65-col 3 line 27, col 4 line 55+)

Aleksic does not specifically disclose that the estimated rasterization starting point. However, Lentz et al teaches that the method of finding the starting raster points by using the vertices of the polygon. (See Fig 4A, Fig 4B, Fig 5, Fig 6, Fig 9, col 3 line 36-col 4 line 46) The motivation would have been to decreasing a substantial time of the rasterization efficiently, as mentioned in Lentz et al (See col 3 line 36-col 4 line 46). Therefore, it would have been obvious to one skilled in the art to incorporate the teaching of Lentz et al into the teaching of Aleksic.

Regarding claim 2, Aleksic discloses that generating, in the circuit, an orientation bit representing an orientation of a line connecting the first and second vertices with a line connecting the first and third vertices. (See Fig 2, Fig 4A, Fig 4B, col 2 line 54-59, col 2 line 65-col 3 line 27, col 4 line 55+)

Aleksic does not explicitly disclose that representation of orientation bit. However, Lentz et al teaches that using orientation of triangles to classify or organize the triangle variable for faster and easier rasterization process. (See col 5 line 58-64, col 7 line 38-51) The motivation would have been to improve faster rasterization process by providing the x-y coordinate data of each vertex in different coordinate system with easy manner. Therefore, it would have been obvious to one skilled in the art to have orientation bit into the teaching of Aleksic.

Regarding claim 3, Aleksic discloses that sorting the first, second and third vertices according to a position in a predetermined direction. (See Fig 2, Fig 4A, Fig 4B, col 2 line 54-59, col 2 line 65-col 3 line 27, col 4 line 55+)

Aleksic does not specifically disclose that "sorting the vertices". However, Sfarti discloses such claimed feature of invention in analogous art. (See Fig 4 [130], Fig 5 [160], Abstract line 2-9, col 3 line 46-55) The motivation would have been to provide faster calculation in rasterization process. Therefore, it would have been obvious to one skilled in the art to have the process of sorting vertices into the teaching of Aleksic.

Regarding claims 4 and 5, claims 4 and 5 are similar in scope to the claims 1 and 2, and thus the rejections to claims 1 and 2 hereinabove are also applicable to claims 4 and 5.

Regarding claim 6, refer to the discussion for the claim 1 hereinabove, Lentz et al further discloses that a rasterizer configured to receive the initial rasterization starting point estimation circuit coordinates. (See Fig 4A, Fig 4B, Fig 5, Fig 6, Fig 9, col 3 line 36-col 4 line 46)

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

or faxed to:

(703) 308-9051, (for formal communications intended for entry)

Or:

(703) 308-6606 (for informal or draft communications, please label "PROPOSED"  
or "DRAFT").

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Chung whose telephone number is (703) 306-3419. He can normally be reached Monday-Thursday and alternate Fridays from 7:30am - 5:00pm. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Michael, Razavi can be reached on (703) 305-4713. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

djc  
June 25, 2001

A handwritten signature in black ink, appearing to read 'Matthew Luu', with a stylized flourish at the end.

**MATTHEW LUU**  
**PRIMARY EXAMINER**